

IN THE CLAIMS

Please amend the following claims.

1. (currently amended) A method of forming copper interconnect, comprising:
forming a dielectric layer over a substrate, the dielectric layer having trenches therein;
forming a copper diffusion barrier at least in the trenches;
depositing copper over the copper diffusion barrier and over a top surface of the dielectric layer; and
polishing the copper with a high pH slurry comprising 2-10 wt% silica, an oxidizer comprising ammonia persulfate $(\text{NH}_4)_2\text{S}_2\text{O}_8$, a corrosion inhibitor comprising a sulfate-getter Ba^{2+} , and a pH between 8-11.5.
2. (original) The method of Claim 1, wherein the dielectric layer comprises an oxide of silicon, and the copper diffusion barrier is electrically conductive.
3. (original) The method of Claim 1, wherein the dielectric layer comprises a fluorinated oxide of silicon, and the copper diffusion barrier is selected from the group consisting of tantalum, and tantalum nitride.
- Claims 4 - 7 (cancelled)
8. (original) The method of Claim 1, wherein polishing comprises chemical mechanical polishing with a down force of less than or equal to approximately 3.75 psi.

9. (original) The method of Claim 1, wherein polishing comprises:
engaging the copper with a polishing pad with a down force less than or equal to 3.75
psi; and
providing a slurry flow rate of approximately 200 ccm.
10. (original) The method of Claim 9, wherein polishing further comprises an orbital
speed of approximately 310 rpm and a wafer rotational speed of approximately 10 rpm.
11. (currently amended) A method of polishing a copper film, comprising:
polishing the copper film with a slurry comprising 2-10 wt% silica, an oxidizer
comprising $(\text{NH}_4)_2\text{S}_2\text{O}_8$, a corrosion inhibitor comprising ~~a sulfate getter~~ Ca^{2+} , and a pH
between 8-11.5.

Claims 12 – 33 (cancelled)

34. (currently amended) The method of claim 11, wherein ~~the sulfate getter is Ba^{2+}~~
polishing comprises:
engaging the copper with a polishing pad with a down force less than or equal to 3.75
psi; and
providing a slurry flow rate of approximately 200 ccm.

35. (currently amended) The method of claim ~~11~~ 34, wherein ~~the sulfate getter is Ca²⁺~~
polishing further comprises an orbital speed of approximately 310 rpm and a wafer rotational
speed of approximately 10 rpm.